

9/42362

## TORQUE TRANSMITTING APPARATUS

### ABSTRACT OF THE DISCLOSURE

1 A hydrokinetic torque converter with a built-in  
2 bypass clutch is provided with an arrangement which  
3 regulates the cooling of the clutch at a rate dependent  
4 upon the slip between the coaxial driving and driven  
5 parts of the clutch, and hence upon the quantity of  
6 generated friction heat. The cooling unit for the  
7 driving and/or driven part of the clutch can employ, for  
8 example, one or more pumps; a supply of a substance  
9 which changes its aggregate state from liquid to gaseous  
10 or from solid to flowable in response to heating, and  
11 vice versa in response to cooling; one or more porous  
12 washers in the path for the flow of hydraulic fluid  
13 between the customary plenum chambers provided in the  
14 housing of the torque converter to move a piston of the  
15 driven part of the clutch into and from frictional  
16 engagement with the housing; and/or a system of  
17 recesses, grooves, channels and/or other passages serving  
18 to convey fluid between the chambers at a rate which  
19 is higher or highest when the clutch operates with  
20 maximum slip. Such rate can decrease to zero when the  
21 torque converter is idle or the clutch is fully engaged  
22 to operate without slip.